Heliophysics from the Moon. J. F. Spann[1] , [1]Marshall Space Flight Center, VP60, Huntsville, AL 35812 James.F.Spann@nasa.gov

Abstract: The Moon is immersed in a plasma environment - the local cosmos -that is "magnetized." It is threaded with magnetic fields that are often "frozen" into the plasma, a state of high electrical conductivity that effectively couples the motions of the plasma and the magnetic field. This inherently strong coupling means that the structure and evolution of magnetic fields (of the Sun, of the Earth, and even of the Moon itself) play an essential role in organizing and regulating the local environment of the Moon - the environment to be experienced by explorers. By working to understand, and so predict, the variations that occur from day to day, and from region to region, the productivity and overall success of future lunar robotic and manned missions can be significantly enhanced. This talk will articulate some of the viable investigations that can be pursued at the Moon that address topics of Solar and Space Physics. The content is based on a community based published report entitled "Heliophysics Science and the Moon" that can be found at http://nasascience.nasa.gov/about-us/science-strategy.